

## **MEMORANDUM**

**SUBJECT:** Request for a Time Critical Removal Action at the Gulfco Marine Maintenance Site, Brazoria County, Texas

**FROM:** Rita Engblom, Federal On-Scene Coordinator  
Superfund Removal Team (6SF-PR)

**TO:** Samuel Coleman, P.E., Director  
Superfund Division (6SF)

**THRU:** Ragan Broyles, Chief  
Prevention and Response Branch (6SF-P)

### **I. PURPOSE**

This Memorandum requests approval of a Time Critical removal action in accordance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9604, at the Gulfco Marine Maintenance site (the “site”) located approximately three miles northeast of Freeport, in Brazoria County, Texas. The site consists of approximately 40 acres along the north bank of the Intracoastal Waterway. The time critical removal action is to address source material in deteriorating above ground storage tanks.

This action meets the criteria for initiating a removal action under Section 300.415 of the National Contingency Plan (NCP), 40 CFR § 300.415. This action is expected to require less than twelve months and \$2 million to complete.

### **II. SITE CONDITIONS AND BACKGROUND**

CERCLIS ID#:	TXD055144539
Category of Removal:	Time-Critical
Site ID#:	06JZ
Latitude:	28.96684
Longitude:	-95.28965

## A. Site Description

### 1. Removal Site Evaluation

The Gulfco Marine Maintenance facility operated as a barge cleaning and waste disposal facility from 1971 through 1979. Operations at the facility involved the cleaning, servicing and repair of various types of barges. Chemicals were drained and pumped from barges into Aboveground Storage Tanks (ASTs). Barges were then washed with water and/or a detergent solution. Generated wash waters were disposed of in barges and/or ASTs on-site.

Previous investigations at the Site have included:

- Phase I and II Investigations (1998 - 1999) – Phase I and II investigations at the site were conducted by Potentially Responsible Parties (PRPs).
- LTE Site Characterization (1999) – In March 1999, PRPs conducted an investigation of the site, including the sampling of ASTs and drum contents, accumulated water within the former AST tank farm containment area, soils, residual sandblasting material, sediment from the fresh water pond, and groundwater.
- Screening Site Inspection (2000) – In cooperation with the Environmental Protection Agency (EPA), the Texas Commission on Environmental Quality (TCEQ), formerly the Texas Natural Resources and Conservation Commission (TNRCC) performed a Screening Site Inspection (SSI). The SSI included collection of on-site and off-site soil samples, Intracoastal Waterway sediment samples (adjacent to and distant from the Site), pond sediment samples and groundwater samples from existing monitoring wells.
- Expanded Site Inspection 2001 – In cooperation with EPA, TCEQ performed an Expanded Site Inspection (ESI) in January 2001. The ESI included collection of groundwater samples from temporary on-site and off-site monitoring wells.

Thirteen Potential Source Areas (PSAs) have been identified at the site based on the history of the site and previous investigations. Chemical of Concern (COCs) include metals, Volatile organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), pesticides, and polychlorinated biphenyls (PCBs).

Time critical sources identified by EPA include 15 deteriorating ASTs. Analytical results from AST liquids indicate the presence of the following COCs: chloroform, 1,1-dichloroethane, 1,2-dichloroethane, methylene chloride, tetrachloroethylene (PCE), 1,1,1-trichloroethane, 1,2,4-trimethylbenzene and trichloroethylene (TCE). One AST contains approximately 2,300 gallons of chloroform. Samples failed Total Characteristic Leaching Procedure (TCLP) for chloroform, carbon tetrachloride, benzene, 1,2-dichloroethane, PCE, TCE, and vinyl chloride. The ASTs are contained within two bermed areas. Berms contain approximately 126,650 gallons of liquid waste.

## 2. Physical Location

The facility is located at 906 Marlin Avenue (also referred to as County Road 756) approximately three miles northeast of the city of Freeport, in Brazoria County, Texas. See Attachment 1. The geographic coordinates are latitude 28° 58' 00.65" north and longitude 95° 17' 22.76" west. The site is within the 100-year coastal flood plain along the north bank of the Intercoastal Waterway between Oyster Creek to the east and the Old Brazos River Channel and the Dow Barge Canal to the west. Surface water generally flows eastward into Drum Bay, Christmas Bay, Bastrop Bay, and Galveston Bay. However, the southern part of the site drains to the south and enters the Intercoastal Waterway.

Approximately 78 people live within the one square mile area surrounding the Site. Approximately 3,392 people live within 50 square miles of the Site. The surrounding area is primarily industrial and commercial. A residential area is located approximately 300 feet west of the site.

## 3. Site Characteristics

The site is approximately 40 acres in size. The Gulfco Marine Maintenance, Inc. facility operated as a barge cleaning and waste disposal facility from 1971 to 1979. PSAs identified by the TCEQ and EPA include three buried/backfilled surface impoundments, contaminated soil, ground water contaminations, and an tank farm.

Marlin Avenue divides the Site into two primary areas. See Attachment 2. The property to the north of Marlin Avenue (the North Area) includes the closed surface impoundments. Property south of Marlin Avenue (the South Area) includes an tank farm, dry dock, pond area, vacant lots, and former wash water storage areas.

## 4. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant or Contaminant

Fifteen ASTs containing hazardous substances are on-site. Substances identified to fail TCLP include benzene, carbon tetrachloride, chloroform, 1,2-dichloroethane, 1,1-dichloroethane, PCE, TCE and vinyl chloride. These are listed as hazardous substances pursuant to 40 CFR § 302.4. As such, they are hazardous substances as defined in Section 101(14) of the CERCLA, 42 U.S.C. § 9601(14).

## 5. NPL Status

The Gulfco Marine site was proposed for placement on the National Priorities List (NPL) on September 5, 2002 and subsequently placed on the NPL on April 30, 2003.

## 6. Maps, pictures and other graphic representations

Attachment 1 Site Location Map

Attachment 2 Site Sketch

Attachment 3 ATSDR Fact Sheets

Attachment 4 Enforcement Addendum (Confidential EPA file)

B. Other Actions to Date

1. Previous Actions

The TCEQ in cooperation with the EPA conducted a Screening Site Inspection (2000) and an Expanded Site Inspection 2001. A Hazard Ranking Score (HRS) Documentation Record was prepared in 2002 for NPL listing of the site.

2. Current Actions

A PRP is performing a Remedial Investigation/Feasibility Study (RI/FS) required by the Unilateral Administrative Order issued by the EPA. Once complete, the EPA will propose a final remedy to be published in a Record of Decision to address remaining PSAs at the site.

C. State and Local Authorities' Roles

1. State and Local Actions to Date

Pursuant to a Cooperative Agreement with EPA, the TCEQ has been the lead agency for remedial investigations and reports (SSI and ESI).

2. Potential for State/local Response

The TCEQ will provide assistance in oversight of this removal action.

**III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES**

A. Threats to Public Health or Welfare

Section 300.415 of the NCP lists the factors to be considered in determining the appropriateness of a removal action. Paragraphs (b)(2)(i), (ii), (v), and (iv) directly apply to the conditions at the site. Any one of these factors may be sufficient to justify a removal action.

1. Exposure to Human Populations, Animals or the Food Chain, NCP Section 300.415.(b)(2)(i)

A number of CERCLA hazardous substances have been document at the site, at levels which fail TCLP, including benzene, chloroform and chlorinated hydrocarbons.

The predominant threat to human populations was the potential for exposure by direct

contact with hazardous waste at the site, including but not limited to benzene, chloroform and chlorinated solvents. Benzene, chloroform and chlorinated hydrocarbons are hazardous substances as defined at Section 101(14) of CERCLA, 42 U.S.C. § 9601(14) and further defined at 40 C.F.R. § 302.4.

More than 70 chemicals have been identified as present onsite. Seven chemical have been documented at levels which fail TCLP. Potentially, a wide array of adverse human health effects could occur through the inhalation, ingestion, or dermal contact with chemicals onsite. Effects include minor to severe irritation of skin, mucous membrane, lung, and gastrointestinal tract; neurological effects; death from systemic effects and asphyxiation; blood effects; and cancer. Potential effects of some of the more toxic chemicals which are hazardous substances as defined at Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), and further defined at 40 CFR § 302.4, are summarized below:

- a. Benzene – Benzene is a carcinogen. Systemic effects from exposure include irritation to mucous membranes, restlessness, convulsions, and depression.
  - b. Carbon tetrachloride - High exposure to carbon tetrachloride can cause liver, kidney, and central nervous system damage. These effects can occur after ingestion or breathing carbon tetrachloride, and possibly from exposure to the skin. The liver is especially sensitive to carbon tetrachloride because it enlarges and cells are damaged or destroyed.
  - c. Chloroform – Chloroform can cause dizziness, fatigue, and headache. Inhalation or ingestion of high levels of chloroform over time may damage liver and kidneys.
  - d. TCE - Breathing large amounts of trichloroethylene may cause impaired heart function, unconsciousness, and death. Breathing it for long periods may cause nerve, kidney, and liver damage.
  - e. PCE – PCE may be a carcinogen. High concentrations can cause dizziness, headache, sleepiness, confusion, nausea, difficulty in speaking and walking, unconsciousness, and death.
  - f. Vinyl chloride – Vinyl chloride is a carcinogen. Breathing high levels of vinyl chloride can cause you to feel dizzy or sleepy. Breathing very high levels can cause you to pass out, and breathing extremely high levels can cause death.
2. Contamination of Drinking Water Supplies or Sensitive Ecosystems, NCP Section 300.415(b)(2)(ii)

The majority of the land surface slopes to the east with surface water draining to Drum Bay, Christmas Bay, Bastrop Bay, and Galveston Bay. The southern part of the site drains to the south and enters the Intercoastal Waterway. The site is within the 100-year coastal flood plain along the north bank of the Intercoastal Waterway between Oyster Creek to the east and the Old Brazos River Channel and the Dow Barge Canal to the west. Sensitive ecosystems, including wetlands receiving drainage from the site could be impacted by the toxic contaminants identified on-site.

3. Contaminants in Soils, NCP Section 300.415.(b)(2)(iv)

Benzene, chloroform and chlorinated hydrocarbons are hazardous substances as defined in CERCLA Section 101(14), 42 U.S.C. § 9601(14), and further defined at 40 CFR § 302.4. Sample results indicated that these substances exceeded TCLP in ASTs.

4. Weather Conditions That May Cause the Release or Migration of Hazardous Substances, NCP Section 300.415(b)(2)(v)

The area receives an average of 51 inches of rain annually. The contaminants are subject to migration by entrainment, windblown deposition and surface runoff. Located on the coast of Texas, the site is subject to tropical depressions and hurricanes. In September 2007, the site received heavy rain and winds from tropical storm Humberto.

B. Threats to the Environment

The contaminants at this site present a potential health threat to animal life that comes into contact with waste and to aquatic life that receives runoff from this site.

#### IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

#### V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed Action Description

The tanks presently contain approximately 170,000 gallons of hazardous substances. The following actions are proposed to address the present and future threats of hazardous substances from ASTs on-site:

- The removal of the tank contents for proper disposal. Vacuum trucks, pumps, or similar equipment will be used to transfer contents as necessary.
- Hazardous waste and sludge will be transported for off-site disposal.
- Water containing hazardous substances may be separated from oil/sludge phase, screened, and filtered.
- Water would be tested for Constituents of Concern ("COC"). Effluent results would be compared to wastewater standards. If wastewater quality standards can be met, the effluent may be discharged to a local Publicly Owned Treatment Works (POTW). If effluent does not meet wastewater quality standards, the water will be sent for off-site disposal.

All offsite transportation and disposal will be done in accordance with applicable U.S. Department of Transportation (USDOT) requirements and in compliance with the EPA's Offsite Rule. All requirements under the Occupational Safety and Health Act (OSHA) of 1970, 29 U.S.C. § 651 et seq., and under the laws of the State, approved under Section 18 of the Federal OSHA laws, as well as other applicable safety and health requirements, will be followed. Federal OSHA requirements include Hazardous Materials Operation, 20 CFR § 1910, as amended by 54 Fed. Reg. 9317 (March, 1989), all OSHA General Industry (29 CFR § 1910) and Construction (29 CFR § 1926) standards wherever they are applicable, as well as OSHA record keeping and reporting regulations, and the EPA regulations set forth in 40 CFR § 300, relating to the conduct of work at Superfund sites.

Other requirements under the OSHA of 1970, 29 U.S.C. § 651 et seq., and under the laws of a State with an approved equivalent worker safety program, as well as other applicable safety and health requirements, will be followed. Federal OSHA requirements include, among other things, Hazardous Materials Operation, 20 CFR § 1910, as amended by 54 Fed. Reg. 9317 (March 1989), all OSHA General Industry (29 CFR § 1910) and Construction (29 CFR § 1926) standards wherever they are relevant, as well as OSHA record keeping and reporting regulations, and the EPA regulations set forth in 40 CFR § 300 relating to the conduct of work at Superfund sites.

## 2. Contribution to Remedial Performance

Because this action constitutes source control, these actions are cost effective and consistent with long term remediation strategies that may be developed for the site.

## 3. Description of Alternative Technologies

The proposed action includes removal and offsite disposal of the chemical wastes that pose the highest risk to public health. No alternative technologies can be applied to these portions of the cleanup.

4. Applicable or Relevant and Appropriate Requirements (ARARs)

This removal action will be conducted to abate the actual or potential release of a hazardous substance, pollutant, or contaminant to the environment, in accordance with CERCLA, 42 U.S.C. § 9601 et seq., and in a manner consistent with the National Contingency Plan, 40 CFR § 300, as required at 33 U.S.C. § 1321(c)(3) and 42 U.S.C. § 9604 (a)(1). As stated at 40 CFR § 300.415(j), fund-financed removal actions under CERCLA Section 104 and removal actions under CERCLA Section 106 shall, to the extent practicable considering the exigencies of the situation, attain the ARARs under Federal environmental law.

The Resource Conservation and Recovery Act (RCRA) waste analysis requirements found at 40 CFR § 261.20 and 261.30, RCRA's manifesting requirements found at 40 CFR § 262.20, and RCRA packaging and labeling requirements found at 40 CFR § 262.30 are ARARs for this removal action. Because onsite storage of hazardous wastes will not exceed ninety days, specific storage requirements found at 40 CFR § 265 are not ARARs. See 40 CFR § 262.34.

5. Project Schedule

After the Action Memorandum is signed, it is anticipated that the cleanup action will commence within 90 days. Total project length will be approximately 30 days.

B. Estimated Costs

This action is expected to be performed by the RP at an estimated cost of \$ 120,000. The estimated cost of oversight of this action is approximately \$ 21,000.

**ESTIMATED COSTS**

Extramural Costs

ERRS .....	\$ N/A
START .....	\$ 13,000.00

Intramural Costs

EPA Regional Direct Costs .....	\$ 7,000.00
EPA Regional Indirect Costs .....	\$ 1,000.00
<b>TOTAL, CERCLA REMOVAL PROJECT CEILING.....</b>	<b>\$ 21,000.00</b>



**VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN**

The proposed actions for the Gulfco Marine Maintenance site should be taken immediately. Should these actions be delayed, the potential threats to human health and the environment will increase. A substantial amount of the PCBs contamination is in an unrestricted access area, with a rural population nearby.

**VII. OUTSTANDING POLICY ISSUES**

None.

**VIII. ENFORCEMENT**

*See attached confidential Enforcement Attachment (See Attachment 4).*

**IX. RECOMMENDATION**

This decision document represents the selected removal action for the Gulfco Marine Maintenance site in Brazoria County, Texas, developed in accordance with CERCLA, 42 U.S.C. § 9601 et seq., and consistent with the NCP, 40 CFR § 300. This decision is based on the administrative record for the site.

Conditions at the site meet the NCP section 300.415(b)(2) criteria for a removal and I recommend your approval of the proposed removal action. The total project ceiling, if approved, will be \$21,000.00. None of this funding will come from the Regional removal allowance.

Approved: \_\_\_\_\_ Date: \_\_\_\_\_  
Samuel Coleman, P.E., Director  
Superfund Division

Attachments

ENGBLOM:6SF-PR:X8341:re:4/14/08

PETERSEN	BROYLES	Miller	Aldridge	Nann	PEYCKE
6SF-R2	6SF-R	6SF	6SF-TE	6RC-S	6RC-S